

Biomedical Science and Engineering Interdisciplinary Program

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Introduction

The goal of the BioMedical Science and Engineering Interdisciplinary Program (BSEIP) is to contribute to human health by training graduate students from other programs and departments who are interested in the research of cause, prevention, and treatment development of human diseases. Collaborative research in biomedical science between different programs is emphasized, and therefore comprehension of other areas, enhancing collaborative research capabilities, and building solid and novel research projects are the aim of training graduate student of the BSEIP. Students of the BSEIP are required to take all essential training courses of the BSEIP program as well as courses of their own majors, as described below.

Currently, professors from departments of Biological Sciences, Bio and Brain Engineering, Chemistry, Physics, Nuclear and Quantum Engineering, Civil and Environmental Engineering, Materials Science & Engineering, Chemical and Biomolecular Engineering, and Divisions of Mechanical Engineering, Electrical Engineering, Computer Science as well as adjunct professors of BSEIP participate in the program. Lectures and research fields of the professors include "basic research on the structure, function, physiology, and metabolism of *in vivo* macromolecules," and "applied biomedical research for genetic engineering, protein engineering, virology, and genetic disease." Also, bio-organic chemistry, bio-system dynamics, structural modeling of bio-molecules are studied for applications in biomedical sciences. Electromagnetics, multi-compound research, nuclear magnetic resonance, *in vivo* system control and instrumentation, data analysis, imaging technology are also being studied. Lectures and research for basic and clinical applications are given by specialists in each field. Various fields are incorporated into the BSEIP and re-organized as more organic and specific system.

Graduate students in their master's degree, integrated master's and doctoral degree, doctoral degree at KAIST as well as graduates majored in science and engineering at other universities are eligible to apply for admission into BSEIP. The student admissions committee, organized by the professors of BSEIP, convenes to review all applicants of the BSEIP. Students are encouraged to decide their field of interest at the point when admission is granted. Students must be equipped with all necessary knowledge and specialized technical skills in broad areas so that they can become independent researchers who possess creativity as well as passion. Students who have completed in the BSEIP are expected to play key roles in their research fields at major biomedical and clinical institutes.